IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant(s): Ezio Valdevit	§	Art Unit: 2471
	§	
	§	Confirmation No.: 1886
	§	
Serial No.: 10/699,588	§	Examiner: Mohammad S. Adhami
	§	
Filed: October 31, 2003	§	Docket No.: 112-0124US
	§	
For: Network Path Tracing Method	§	Customer No.: 85197
	§	

APPEAL BRIEF

Via USPTO EFS
Commissioner for Patents
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Mail Stop: Appeal Briefs – Patents

Appellant hereby submits this Appeal Brief in connection with the above-identified application. A Notice of Appeal is being filed concurrently with this Appeal Brief.

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I. REAL PARTY IN INTEREST

Brocade Communications Systems, Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Related application Serial No. 10/699,603 was appealed a first time on March 25, 2008, again on September 29, 2008, and again on May 26, 2011.

III. STATUS OF CLAIMS

Originally filed claims:	1-82.
Added claims:	83-130.
Claim cancellations:	10, 19-54, 64 and 73-82.
Presently pending claims:	1-9, 11-18, 55-63, 65-72 and 83-130.
Presently appealed claims:	1-9, 11-18, 55-63, 65-72 and 83-130.
Presently allowed claims:	None.
Presently objected claims:	None.

IV. STATUS OF AMENDMENTS

No amendments have been made to the subject application subsequent to the Office Action of April 28, 2011 (hereinafter "Office Action").

V. SUMMARY OF CLAIMED SUBJECT MATTER

This section provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal. Each element of the claims is identified with a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Embodiments according to the presently claimed invention provide for systems and methods for gathering troubleshooting information through one or more network. *See* Specification of the subject Application as published (hereinafter "Specification"), Abstract. In at least one embodiment, a switch port is configured to receive a frame that has information added by another switch. *Id.* As the frame traverses the network, control logic in the switch adds additional information into the frame from the current switch. *Id.*

In accordance with the invention of independent claim 1, for example, what is claimed is:

A Fibre Channel switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20)**, comprising:

a plurality of ports configured to receive and transmit a frame **(Specification, ¶ [0026], l. 8; and FIG. 2A, ports 22-28)**; and

a fabric manager coupled to the plurality of ports **(Specification, ¶ [0026], ll. 9-10; and FIG. 2A, fabric manager 38)** to obtain the received frame **(Specification, ¶ [0053], ll. 8-11)** and to provide a frame to be transmitted **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**, the fabric manager configured to add information to the frame **(Specification, ¶ [0042], ll. 1-3)**; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and to provide the frame for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**.

In accordance with the invention of independent claim 55, for example, what is claimed is:

A method performed by a Fibre Channel switch **(Specification, ¶ [0026], ll. 4-6; FIG. 2A, switch 20; ¶ [0053], ll. 1-2; and FIG. 6)**, the method comprising:

receiving a frame **(Specification, ¶ [0053], ll. 8-11)**;

determining measured transmit and receive rates of the port receiving the frame from the amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**;

adding information to the frame **(Specification, ¶ [0042], ll. 1-3)**, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and

providing the frame to a port for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**.

In accordance with the invention of independent claim 83, for example, what is claimed is:

A switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20)**, comprising:

a fabric manager **(Specification, ¶ [0026], ll. 9-10; and FIG. 2A, fabric manager 38)** configured to add information to a frame **(Specification, ¶ [0042], ll. 1-3)**; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of a port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and to provide the frame for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**.

In accordance with the invention of independent claim 99, for example, what is claimed is:

A method performed by a switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20; ¶ [0053], ll. 1-2; and FIG. 6)**, the method comprising:

determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**;

adding information to the frame **(Specification, ¶ [0042], ll. 1-3)**, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and

providing the frame to a port for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**.

In accordance with the invention of independent claim 115, for example, what is claimed is:

A switch **(Specification, ¶ [0026], ll. 4-6; and FIG. 2A, switch 20)**, comprising:

means for determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period **(Specification, ¶ [0048], ll. 6-12)**;

means for adding information to the frame **(Specification, ¶ [0042], ll. 1-3)**, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame **(Specification, ¶ [0042], ll. 3-9; and ¶ [0048], ll. 6-10)**; and

means for providing the frame to a port for transmission **(Specification, ¶ [0056], ll. 6-11; ¶ [0057], ll. 8-12; ¶ [0058], ll. 2-4 and 8-10; and FIG. 6, blocks 636, 640, 642 and 646)**.

In accordance with the invention of dependent claim 125, for example, what is claimed is:

The switch of claim 124, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information **(Specification, ¶ [0057], ll. 4-12; and FIG. 6, blocks 632, 640, and 644)**.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- Whether claims 1, 8, 9, 11, 12,16-18, 55, 62, 63, 65, 66, 70-72, 83, 90-93, 97-99, 106-109, 113-115, 122-125, 129 and 130 are unpatentable under 35 U.S.C. § 103(a) over Cometto (U.S. Pat. No. 7,206,288) in view of Winter (U.S. Pat. App. No. 2005/0086368).
- Whether claims 2-7, 56-61, 84-89, 100-105 and 116-121 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view of Winter as applied to claims 1, 55, 83, 99, and 115 above, and further in view of Soumiya (U.S. Pat. No. 6,671,257).
- Whether claims 13, 67, 94, 110 and 126 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view of Winter as applied to claims 12, 30, 48 and 66 above and further in view of Wong (U.S. Pat. No. 6,363,077).
- Whether claims 14, 68, 95, 111 and 127 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view of Winter as applied to claims 12, 30, 48 and 66, and further in view of Fredericks (U.S. Pat. No. 6,347,334).
- Whether claims 15, 69, 96, 112 and 128 are unpatentable under 35 U.S.C. § 103(a) over Cometto in view of Winter as applied to claims 12, 30, 48 and 66, and further in view of Kanetake (U.S. Pat. App. Pub. No. 2003/0137978).

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. After a concise discussion of cited art, each of these arguments is separately argued below and presented with separate headings and subheading as required by 37 CFR § 41.37(c)(l)(vii).

A. The Rejections Under 35 U.S.C. § 103(a) of Claims 1, 8, 9, 11, 12,16-18, 55, 62, 63, 65, 66, 70-72, 83, 90-93, 97-99, 106-109, 113-115, 122-125, 129 and 130 as Unpatentable Over Cometto (U.S. Pat. No. 7,206,288) in View of Winter (U.S. Pat. App. No. 2005/0086368)

1. The Rejections of Independent Claims 1, 55, 83, 99 and 115

Claim 1 recites, among other things:

> a fabric manager coupled to the plurality of ports to obtain the received frame and to provide a frame to be transmitted, the fabric manager configured to add information to the frame; the information including receive and transmit port identity, the switch identity, and **measured transmit and receive rates of the port receiving the frame**; and to provide the frame for transmission;
>
> **wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period**.

Emphasis added. In rejecting claims 1, 55, 83, 99 and 115 over Cometto in view of Winter, the Office Action acknowledges that Cometto does not disclose the above highlighted limitations of claim 1. However, the Office Action goes on to state that:

> Winter discloses sending measured transmit and receive rates of the port, wherein the measured transmit and receive rates of the device are determined from an amount of data respsecively transmitted and received by the port during a defined time period (Para. [0016] Each identification message may contain characteristic information about the first node or first port, including, a speed of the first port. Each identification message may contain statistical information about the first port, such as a number of frames sent, a number of frames received. The statistics will be maintained and may be calculated over some period of time).

Office Action, ¶ 1, p. 5. Appellant respectfully traverses this characterization of the cited art. Winter relates to a system and method for determining the nearest neighbor in a communications

network. Winter, ¶ [0001]. To achieve this, the method of Winter sends one or more identification messages from a first node to a reserved multicast address. *Id.* at ¶ [0016]. The identification messages each include one or more frames which contain identification information about the first node. *Id.* The identification information may include characteristic information about the first node such as the speed of the node. *Id.* The identification information can also contain statistical information such as the number of frames sent and received from and to the first node. *Id.* However, neither the speed of the node, nor the number of frames sent and received from it disclose the limitations of claim 1 highlighted above.

First, a port's speed is not the same as the measured transmit and receive rates of the port. As Winter points out, the speed is a characteristic type of information about the port. In other words, the port speed is the port's internal characteristic or capability of transmitting at a specific rate. The fact that the port is capable of transmitting at a certain rate, however, does not mean that it will actually send and receive frames at that rate. Thus, the port speed is different from measured transmit and receive rates of the port. As the claim recites, the measured transmit and receive rates of the port are determined from the amount of data transmitted and received by the port during a defined time period. These rates indicate actual transmit and received rates, whereas the port speed identifies the port's capability of rate of transmission. Accordingly, the port speed taught in Winter does not disclose the measured transmit and receive rates of the port recited in the claim.

Moreover, Winter's teaching that the number of frames sent and received from the first port are included in the identification message does not disclose the measured transmit and receive rate of the port receiving the frame. The number of frames sent and received from the port by itself cannot give you the measured rate. In order to determine the rate of transmission, one would need to have the number of frames sent and received over a defined period of time. The claim itself requires that the rates be determined from the amount of data transmitted and received by the port during that defined time period. Winter teaches merely adding the number of frames sent and received by the port to the identification message. This teaching is not the same as disclosing the measured transmit and receive rates of a port.

For at least these reasons, Appellant submits that none of the cited references, either alone or together, teaches or suggests all of the limitations of independent claim 1. Further, because independent claims 55, 83, 99 and 115 include limitation similar to claim 1 and were rejected on the same grounds, Appellant submits that none of the limitations of these claims are taught by the cited references. The Office Action therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of independent claims 1, 55, 83, 99 and 115.

2. The Rejections of Dependent Claims 2-9, 11-18, 56-72, 84-98, 100-114 and 116-130

Appellant notes that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 2-9, 11-18, 56-72, 84-98, 100-114 and 116-130 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above. The Examiner therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of claims 2-9, 11-18, 56-72, 84-98, 100-114 and 116-130.

i. Dependent Claims 12, 66, 93, 109, and 125

Also, with regard to dependent claims 12, 66, 93, 109, and 125, the Office Action rejected these claims over Cometto in view of Winter stating that,

> The Examiner respectfully disagrees. Cometto does disclose how a frame is routed (Col.2 lines 7-8 the fibre channel frame identifying the source fibre channel switch and a destination - where the source and destination information is used to route the frame). The routing information in the packet is used to route the frame. Port numbers are included as part of the routing information (Col.5 lines 26-37).

Office Action, ¶ 7, p. 12. Appellant respectfully traverse the rejection, noting that although Cometto teaches that, "[t]he processor is operable to provide a Fibre Channel frame identifying the source Fibre Channel switch and a destination" (Cometto, col. 2, ll. 6-8), Cometto is silent as to how the frame is routed, i.e., whether normal routing or source routing is used to actually route the received frame. The portion of Cometto cited in the Office Action as teaching how a frame is routed refers to inserting time stamp information such as the port number associated with the input port of a switch to the frame. Cometto, col. 5, ll. 27-34. That is not the same as disclosing source routing or using normal routing rules as described in the Specification. Cometto thus does not teach or suggest a fabric manager that is configured to select a port based on either normal routing rules or source routing information within the received frame, as required by the claims.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 12, 66, 93, 109, and 125 and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejection of claims 12, 66, 93, 109, and 125.

B. The Rejections Under 35 U.S.C. § 103(a) of Dependent Claims 2-7, 56-61, 84-89, 100-105 and 116-121 as Unpatentable Over Cometto in view of Winter as applied to claims 1, 55, 83, 99 and 115 and Further in View of Soumiya (U.S. Pat. No. 6,671,257)

Appellant further notes, with regard to dependent claims 2-7, 56-61, 84-89, 100-105 and 116-121 that it was stated in the Office Action that,

> Soumiya discloses *rate information based on a first defined period and a second defined period that is greater than the first defined period* (Fig.26 ref. 8~9 is a rate field, Col.26 lines 21-23 the rate changing unit may change the explicit rate that the rate calculating unit calculates at a predetermined ratio and Col.35 lines 21-36 the prolongment of the observation period means that an interval between ER calculation times becomes longer. The capability for calculating the ER in an observation period which is shorter than a specified observation period and Col.7 lines 27-28 "an arrived cell number counter for counting a number of arrived cells in correspondence with an output channel" where calculating the transmission rate also contains information about the amount of frames and words transmitted).

Office Action, ¶ 2, pp. 8-9. Appellant respectfully traverses these rejections, noting that the single explicit rate field of the RM cell taught by Soumiya does not represent both the transmit and receive rates of a port receiving a frame to which the rates are added. The explicit rate value certainly does not also simultaneously represent the speed of the port receiving the frame, the port itself, and the transmit and receive rates of the port based on two different time periods. These are all distinct values that are each required by the various dependent claims to be added to the received frame by the claimed switch. The explicit rate field taught by Soumiya is not analogous to any of these values, let alone two or more of them at the same time. And even if the explicit rate fields were analogous to transmit and receive rates, there is no indication to include two such values based on different periods as required by the claims.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 2-7, 56-61, 84-89, 100-105 and 116-121, and thus the Office Action erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 2-7, 56-61, 84-89, 100-105 and 116-121.

C. The Rejections Under 35 U.S.C. § 103(a) of Dependent Claims 13, 67, 94, 110 and 126 as Unpatentable Over Cometto in view of Winter as applied to claims 12, 30, 48 and 66, and Further in View of Wong (U.S. Pat. No. 6,363,077)

Appellant notes that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 13, 67, 94, 110 and 126 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above.

Appellant further notes, with regard to these dependent claims, that it was stated in the Office Action:

> The Examiner respectfully disagrees. Wong does disclose using normal routing rules if the source routing information does not indicate a device directly connected to the switch (Col.9 lines 53-67 If the destination port is a local network port of the current receiving device, only a local transaction must be processed. If the destination port is a network port of a device of the fabric other than the current receiving device, the data packet must be transferred from the current receiving device to the destination device via the data ring by processing). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the source including information into the packet) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim limitation states source routing information, which is a broad limitation and is not limited to the meaning a source including information into the packet.

Office Action, ¶ 7, p. 13. Appellant respectfully traverses the rejection. Source routing is a term of art which is well known to those skilled in the art. Moreover, the Specification itself clearly indicates what the term refers to. For example, the Specification states "[i]f a source routing (PI_SRC_ROUTE_F) flag is set, the method does not use the switches' inherent routing as defined by the FSPF specifications and its topology database. In this case, a sequence of switch ID and/or output port pairs will be included in the fixed header 74 in a source routing descriptor." Specification as filed, ¶ [0041]; see also ¶ [0010] ("[t]his source routing information is then included in every frame that goes between the two networks." Thus it is clear that the term source routing involves the source including the routing information into the packet itself, rather than the use of routing tables at each device.

However, there is no indication in the cited text of Wong that the transfer of the data packet via the ring taught by Wong is performed using source routing. Indeed, Wong does not even mention source routing. In fact, Wong specifically uses a packet routing table to determine how to forward the packet. Thus, Wong actually teaches away.

For at least these reasons, and in addition to the reasons already presented, Appellant submits that none of the cited art teaches all of the limitations of dependent claims 13, 67, 94, 110 and 126, and thus the Examiner erred in rejecting these claims. Appellant therefore respectfully requests reversal of the rejections of claims 13, 67, 94, 110 and 126.

D. The Rejections Under 35 U.S.C. § 103(a) of Dependent Claims 14, 68, 95, 111 and 127 as Unpatentable Over Cometto in View of Winter as Applied to Claims 12, 30, 48 and 66, and Further in View of Fredericks (U.S. Pat. No. 6,347,334)

Appellant notes that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 14, 68, 95, 111 and 127 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above. The Office Action therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of claims 14, 68, 95, 111 and 127.

E. The Rejections Under 35 U.S.C. § 103(a) of Dependent claims 15, 69, 96, 112 and 128 as unpatentable under 35 U.S.C. § 103(a) over Cometto in View of Winter as Applied to Claims 12, 30, 48 and 66, and further in view of Kanetake (U.S. Pat. App. Pub. No. 2003/0137978)

Appellant notes that because the remaining pending dependent claims each depends upon one of independent claims 1, 55, 83, 99 or 115, and thus include all of the limitations of the independent claims upon which they respectively depend upon, dependent claims 15, 69, 96, 112 and 128 are each also not rendered obvious under 35 U.S.C. § 103(a) for at least the same reasons as those presented above. The Office Action therefore erred in rejecting these claims and Appellant respectfully requests reversal of the rejections of claims 15, 69, 96, 112 and 128.

F. Conclusion

Appellant believes that no extensions of time or fees are required, beyond those that may otherwise be provided in documents accompanying this response. Nonetheless, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Wong Cabello's Deposit Account No. 50-1922, referencing docket number 112-0124US.

Respectfully submitted,

July 27, 2011

Filed Electronically

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VIII. CLAIMS APPENDIX

1. (Previously Presented) A Fibre Channel switch, comprising:

a plurality of ports configured to receive and transmit a frame; and

a fabric manager coupled to the plurality of ports to obtain the received frame and to provide a frame to be transmitted, the fabric manager configured to add information to the frame; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of the port receiving the frame; and to provide the frame for transmission;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period.

2. (Original) The switch of claim 1, the information further including the speed of the port receiving the frame and the link cost of a link connected to the transmit port.

3. (Previously Presented) The switch of claim 1, the information further including the port transmitting the frame.

4. (Previously Presented) The switch of claim 3, wherein the transmit and receive rates are based on a first defined time period.

5. (Previously Presented) The switch of claim 4, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

6. (Previously Presented) The switch of claim 5, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

7. (Previously Presented) The switch of claim 4, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

8. (Original) The switch of claim 1, wherein the frame has an original source and an original destination and wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original source to the original destination.

9. (Original) The switch of claim 8, wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original destination to the original source.

10. (Cancelled)

11. (Original) The switch of claim 1, wherein the fabric manager is configured to select the port to transmit the frame based on normal routing rules.

12. (Original) The switch of claim 11, wherein the frame contains source routing information and wherein the fabric manager is configured to select the port to transmit the frame based on the source routing information.

13. (Original) The switch of claim 12, wherein the fabric manager is configured to use normal routing rules if the source routing information does not indicate a device directly connected to the switch.

14. (Previously Presented) The switch of claim 11, wherein the frame is destination addressed to a well known address, and wherein the fabric manager is configured to determine a destination address by retrieving data from the frame payload.

15. (Original) The switch of claim 1, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the fabric manager is configured to transmit the frame over all of such routes.

16. (Previously Presented) The switch of claim 1, wherein the frame is an extended link services frame.

17. (Original) The switch of claim 1, wherein the fabric manager is configured to determine if the switch is the original destination of the frame, and if so, modify the frame to cause it to return to the original source.

18. (Original) The switch of claim 1, wherein the fabric manager is configured to determine if the switch was the original source of the frame, and if so, to capture the frame and not further transmit the frame.

19. – 54. (Cancelled)

55. (Previously Presented) A method performed by a Fibre Channel switch, the method comprising:

receiving a frame;

determining measured transmit and receive rates of the port receiving the frame from the amount of data respectively transmitted and received by the port during a defined time period;

adding information to the frame, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame; and

providing the frame to a port for transmission.

56. (Original) The method of claim 55, the information further including the speed of the port receiving the frame and the link cost of a link connected to the port.

57. (Previously Presented) The method of claim 55, the information further including the port transmitting the frame.

58. (Previously Presented) The method of claim 57, wherein the transmit and receive rates are based on a first defined time period.

59. (Previously Presented) The method of claim 58, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

60. (Previously Presented) The method of claim 59, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

61. (Previously Presented) The method of claim 58, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

62. (Original) The method of claim 55, wherein the frame has an original source and an original destination and the information is added to the frame when the frame is traveling from the original source to the original destination.

63. (Original) The method of claim 62, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

64. (Cancelled)

65. (Original) The method of claim 55, wherein the port selected to transmit the frame is based on normal routing rules.

66. (Original) The method of claim 65, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information.

67. (Original) The method of claim 66, wherein normal routing rules are used if the source routing information does not indicate a device directly connected to the switch.

68. (Previously Presented) The method of claim 65, wherein the frame is destination addressed to a well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

69. (Original) The method of claim 55, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of such routes.

70. (Previously Presented) The method of claim 55, wherein the frame is an extended link services frame.

71. (Original) The method of claim 55, further comprising:

determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

72. (Original) The method of claim 55, further comprising:

determining if the switch was the original source of the frame, and if so, to capturing the frame and not further transmitting the frame.

73.- 82. (Cancelled)

83. (Previously Presented) A switch, comprising:

a fabric manager configured to add information to a frame; the information including receive and transmit port identity, the switch identity, and measured transmit and receive rates of a port receiving the frame; and to provide the frame for transmission;

wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period.

84. (Previously Presented) The switch of claim 83, the information further including the speed of a port receiving the frame and the link cost of a link connected to a transmit port.

85. (Previously Presented) The switch of claim 83, the information further including the port transmitting the frame.

86. (Previously Presented) The switch of claim 85, wherein the transmit and receive rates are based on a first defined time period.

87. (Previously Presented) The switch of claim 86, the information further including transmit and receive rates of the port receiving the frame and a port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

88. (Previously Presented) The switch of claim 87, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

89. (Previously Presented) The switch of claim 86, the information further including the number of frames transmitted and received by the port receiving the frame and a port transmitting the frame.

90. (Previously Presented) The switch of claim 83, wherein the frame has an original source and an original destination and wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original source to the original destination.

91. (Previously Presented) The switch of claim 90, wherein the fabric manager is configured to add the information to the frame when the frame is traveling from the original destination to the original source.

92. (Previously Presented) The switch of claim 83, wherein the fabric manager is configured to select a port to transmit the frame based on normal routing rules.

93. (Previously Presented) The switch of claim 92, wherein the frame contains source routing information and wherein the fabric manager is configured to select the port to transmit the frame based on the source routing information.

94. (Previously Presented) The switch of claim 93, wherein the fabric manager is configured to use normal routing rules if the source routing information does not indicate a device directly connected to the switch.

95. (Previously Presented) The switch of claim 92, wherein the frame is destination addressed to a well known address, and wherein the fabric manager is configured to determine a destination address by retrieving data from the frame payload.

96. (Previously Presented) The switch of claim 83, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the fabric manager is configured to transmit the frame over all of such routes.

97. (Previously Presented) The switch of claim 83, wherein the fabric manager is configured to determine if the switch is the original destination of the frame, and if so, modify the frame to cause it to return to the original source.

98. (Previously Presented) The switch of claim 83, wherein the fabric manager is configured to determine if the switch was the original source of the frame, and if so, to capture the frame and not further transmit the frame.

99. (Previously Presented) A method performed by a switch, the method comprising:

determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period;

adding information to the frame, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame; and

providing the frame to a port for transmission.

100. (Previously Presented) The method of claim 99, the information further including the speed of the port receiving the frame and the link cost of a link connected to the port.

101. (Previously Presented) The method of claim 99, the information further including the port transmitting the frame.

102. (Previously Presented) The method of claim 101, wherein the transmit and receive rates are based on a first defined time period.

103. (Previously Presented) The method of claim 102, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

104. (Previously Presented) The method of claim 103, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

105. (Previously Presented) The method of claim 102, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

106. (Previously Presented) The method of claim 99, wherein the frame has an original source and an original destination and the information is added to the frame when the frame is traveling from the original source to the original destination.

107. (Previously Presented) The method of claim 106, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

108. (Previously Presented) The method of claim 99, wherein the port selected to transmit the frame is based on normal routing rules.

109. (Previously Presented) The method of claim 108, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information.

110. (Previously Presented) The method of claim 109, wherein normal routing rules are used if the source routing information does not indicate a device directly connected to the switch.

111. (Previously Presented) The method of claim 108, wherein the frame is destination addressed to a well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

112. (Previously Presented) The method of claim 99, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of such routes.

113. (Previously Presented) The method of claim 99, further comprising:

determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

114. (Previously Presented) The method of claim 99, further comprising:

determining if the switch was the original source of the frame, and if so, to capturing the frame and not further transmitting the frame.

115. (Previously Presented) A switch, comprising:

means for determining measured transmit and receive rates of a port receiving a frame from an amount of data respectively transmitted and received by the port during a defined time period;

means for adding information to the frame, the information including receive and transmit port identity, the switch identity, and the measured transmit and receive rates of the port receiving the frame; and

means for providing the frame to a port for transmission.

116. (Previously Presented) The switch of claim 115, the information further including the speed of the port receiving the frame and the link cost of a link connected to the port.

117. (Previously Presented) The switch of claim 115, the information further including the port transmitting the frame.

118. (Previously Presented) The switch of claim 117, wherein the transmit and receive rates are based on a first defined time period.

119. (Previously Presented) The switch of claim 118, the information further including transmit and receive rates of the port receiving the frame and the port transmitting the frame based on a second defined time period, the second defined time period being greater than the first defined time period.

120. (Previously Presented) The switch of claim 119, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

121. (Previously Presented) The switch of claim 118, the information further including the number of frames transmitted and received by the port receiving the frame and the port transmitting the frame.

122. (Previously Presented) The switch of claim 115, wherein the frame has an original source and an original destination and the information is added to the frame when the frame is traveling from the original source to the original destination.

123. (Previously Presented) The switch of claim 122, wherein the information is added to the frame when the frame is traveling from the original destination to the original source.

124. (Previously Presented) The switch of claim 115, wherein the port selected to transmit the frame is based on normal routing rules.

125. (Previously Presented) The switch of claim 124, wherein the frame contains source routing information and wherein the port selected to transmit the frame is based on the source routing information.

126. (Previously Presented) The switch of claim 125, wherein normal routing rules are used if the source routing information does not indicate a device directly connected to the switch.

127. (Previously Presented) The switch of claim 124, wherein the frame is destination addressed to a well known address, and wherein a true destination address is determined by retrieving data from the frame payload.

128. (Previously Presented) The switch of claim 115, wherein there are a plurality of equal cost routes that can be used for transmitting the frame and wherein the frame is transmitted over all of such routes.

129. (Previously Presented) The switch of claim 115, further comprising:

determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source.

130. (Previously Presented) The switch of claim 115, further comprising:

determining if the switch was the original source of the frame, and if so, to capturing the frame and not further transmitting the frame.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.